

## Chapter 4.23

# E-Supply Chain System at Valvex and Its Integration with ERP Systems<sup>1</sup>

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### ABSTRACT

ERP and SCM systems have been used in China for some time. Although these two systems complement each other, the integration of these two systems is challenging. We present a case on a leading Chinese manufacturer of industrial valves named Valvex that successfully integrated the ERP systems from Entreplan and the SCM system from Excelvison. The project improved the operations at Valvex and resulted in many benefits. This chapter describes the implementation of the e-SCM system at Valvex and its integration with the existing ERP system. The process of implementation and integration was marked by many challenges, and some of them were unique

to a Chinese manufacturing organization. Using several smart strategies the project team was able to overcome these challenges and complete the project successfully. Several lessons can be learned from the experience of Valvex which may be useful for organizations that plan to undertake similar projects.

### INTRODUCTION

Chinese manufacturing industry has obtained a high growth rate in the past 25 years and is expected to maintain a speedy growth in a number of years to come. According to China's statistics bureau, the gross output of manufacturing

industry is about US\$709 billion and it makes up 40% of the national GDP in 2004 (China Statistical Yearbook, 2004). But a critical problem facing the Chinese manufacturing industry is its low productivity, which is only a fraction of the productivities of the United States and Japan (People's Daily, 2003).

In the last few years an increasing number of Chinese manufacturing companies have increased their investments in information technology to improve productivity. According to CCW Research, the amount of IT investments of manufacturing industry in 2005 is expected to be US\$3.5 billion and it has grown by 14.8% compared to the investment figure in 2004 (CCW Report, 2005). Many large manufacturing companies in China have implemented ERP systems (Wang, Xu, Liu, & Qin, 2005; Zhang, Lee, Huang, Zhang, & Huang, 2005). These enterprise systems have not only transformed the operations of these companies and improved management efficiency, but also they have established a reasonably good information technology applications environment. For instance, most of these companies have high-end servers, multiple work terminals, and TCP/IP networks with high bandwidth. Also they have established clean data sources and have trained the employees so that the enterprise systems can be utilized well. Most of them also have established IT departments to maintain and support the hardware and software. All these efforts have created a good infrastructure base to further improve the utilization of IT in their business operations. In fact some of the companies have moved further by implementing supply chain management (SCM) systems and integrating them with ERP systems.

Logistics cost accounts for a significant part in the cost structure of manufacturing companies, especially for those with inefficient supply chain management. Poor management of supply chain causes excessive inventory, inaccurate tracking, low labor productivity, poor inventory turnover,

and little or no collaboration with customers and vendors. As ERP systems are primarily not suitable to address these problems (Ball, Ma, Raschid, & Zhao, 2002; Dhingra, 2001; Tarn, Yen, & Beaumont, 2002), more and more Chinese manufacturing companies are turning to SCM systems to drive efficiency (Boston Consulting Group Report, 2005). However, implementation of ERP and SCM systems do not come easy—there are a lot of issues including system architecture design, software vendor and consulting service provider selection, disparate data sources, business process reengineering, system integration, and project management (Bakowski, 2002; Xue, Liang, Boulton, & Snyder, 2005). Apart from technical factors, appropriate organizational orientation is also critical (Wang, Ying, Jiang, & Klein, 2006). Kobayashi, Tamaki, and Komoda (2003), Kumar, Maheshwari, and Kumar (2002), and Umble, Haft, and Umble (2003) discussed the best practices in implementing enterprise systems. The benefits from enterprise systems vary a lot. Organizations across the world have seen mixed results (Hendricks, Singhal, & Stratman, 2006). Here we discuss these issues and show with the help of a case study on Valvex, a leading Chinese manufacturer of valves, how these enterprise systems can improve business operations.

## **ERP and SCM Systems in China**

An enterprise resource planning (ERP) system is used to integrate different functions of various departments across a company into a single decision support system. ERP combines these functions into a single integrated software program that runs on a single database so that personnel from different departments can share information easily and avoid duplication. A successful ERP implementation not only needs appropriate software and hardware, but also it requires appropriate alignment of business processes with the overall goal of the organization. Many times, the ways an organization does busi-

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